SECURITY ACCESS AND SURVEILLANCE
SECTION 13850

VISTA 250FBP
ARCHITECT AND ENGINEER SPECIFICATION
FOR
SECURITY SYSTEM

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SECTION 13850
DETECTION AND ALARM

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes

1. Control Panel
2. Associated Equipment

B. Products Installed But Not Supplied Under This Section

1. Section 16140 - Wiring Devices
2. Section 16530 - Emergency Lighting

C. Related Sections

1. Section 13700 - Security Access and Surveillance
2. Section 13800 - Building Automation and Control

1.02 REFERENCES

A. Underwriters Laboratories (UL):

1. UL 268 – Smoke Detectors for Fire Protective Signaling Systems
2. UL 365 – Police Station Connected Burglar Alarm Units and Systems
3. UL 609 – Local Burglar Alarm Units and Systems
4. UL 611 – Central Station Burglar-Alarm Units
5. UL 636 – Holdup Alarm Units and Systems
6. UL 684 – Local, Central Station, and Remote Station
7. UL 864 – Control Units for Fire Protective Signaling Systems
8. UL 985 – Household Fire Warning System Units
9. UL 1023 – Household Burglar-Alarm System Units
10. UL 1076 – Proprietary Burglar-Alarm Units and Systems
11. UL 1610 – Central-Station Burglar-Alarm Units

B. Federal Communications Commission (FCC):

1. Code of Federal Regulations Title 47 - Part 15 – Radio Frequency Devices.
2. Code of Federal Regulations Title 47 - Part 68 – Connection of Terminal Equipment to the Telephone Network.

C. National Fire Protection Association (NFPA):

1. NFPA70 – National Electrical Code.
2. NFPA 72 – National Fire Protection Code

1.03 SYSTEM DESCRIPTION

A. The system shall be a Burglary/Access Control/CCTV Switching System that includes the following capabilities:

1. Listed for UL Commercial Fire and Burglary.
2. Supports up to 250 zones.
3. Supports up to eight (8) separate partitions.
4. Supports up to 250 users.
5. Supports commercial wireless devices.
6. Provides integrated security, access control, and CCTV switching capability.
7. Provides supervision of peripheral devices.
8. Supports up to 96 optional relay outputs.
9. Supports long-range radio (LRR) communication.
10. Provides scheduling capability to allow for automated operations.
11. Supports up to eight (8) alphanumeric paging devices.
12. Supports panel linking.
13. Supports alarm reporting via Internet.
14. Interfaces with automation software.
15. Monitors smoke detector maintenance signals
16. Capable of being installed using existing wiring.

1.04 SUBMITTALS

A. Submittals shall include manufacturer data sheets for all major system components.

1.05 QUALITY ASSURANCE

A. The alarm manufacturer shall be certified as being compliant with ISO9001.

PART 2 PRODUCTS

2.01 SYSTEM PERFORMANCE

A. Control Panel - The control panel shall be an eight (8)-partition, UL commercial fire and burglary control panel that supports up to 250 zones using basic hardwired, polling loop, and wireless zones. It shall also provide supervision of two (2) notification appliance output circuits (NAC), RF receivers, and relay modules. In addition, the control shall provide the ability to schedule time-driven events, and allow certain operations to be automated by pressing a single button. The system shall be capable of interfacing with an ECP long range radio (LRR) unit that can send Contact ID messages, and alphanumeric paging devices. The control shall provide integrated access control and CCTV-switching capability with the use of a single downloader and database.

1. Basic Hardwired Zones - The control shall provide eight (8) style-B hardwire zones with the following characteristics:

   a. EOLR supervision (optional for zones 2-8): Shall support N.O. or N.C. sensors (EOLR supervision required for UL installations).

   b. Zones/Points shall be individually assignable to any partition.

   c. Supports up to 64 two-wire smoke detectors on two selected zones.

   d. Supports four-wire smoke or heat detectors on any zone (power to four-wire smoke detectors must be supervised with an EOL device).

   e. Supports up to 50 two-wire latching glass break detectors on one selected zone.

   f. Individually assignable to Notification Appliance (NAC) outputs and/or auxiliary relays.

2. Optional Expansion Zones

   a. Polling Loop Expansion – The control shall support up to 242 additional hardwire zones using a built-in two-wire polling (multiplex) loop interface. The polling loop shall provide power and data to remote point modules, and constantly monitor the status of all zones on the loop. Maximum current draw shall not exceed 128 mA. The polling loop zones shall have the following characteristics:

      (1) Interface with RPM (Remote Point Module) devices that provide Class B, Style Y (e.g., 4208U/4208SN) or a combination of Class B, Style Y, and Class A, Style Z (e.g., 4208SNF) zones.

      (2) Individually assignable to one of eight (8) partitions.

      (3) Supervised by the control panel.

      (4) A 12,000 ft (3658 m) wire run capability without using shielded cable.

(5) Each RPM (Remote Point Module) enclosure shall be tamper protected.

b. Wireless Expansion – The control shall support up to 250 wireless zones using a 5800 series RF receiver (fewer if using hardwire and/or polling loop zones). Wireless zones shall have the following characteristics:

(1) Supervised by control panel for check-in signals (except certain non-supervised transmitters).

(2) Tamper-protection for supervised zones.

(3) Individually assignable to one of eight (8) partitions.

(4) Individually assignable to bell outputs and/or auxiliary relays.

(5) Support wireless devices listed for Commercial Burglary using the 5881ENHC RF Receiver.

3. Partitions – The control shall provide the ability to operate eight (8) separate areas, each functioning as if it had its own control. Partitioning features shall include:

a. A Common Lobby partition (1-8), which can be programmed to perform the following functions:

(1) Arm automatically when the last partition that shares the common lobby is armed.

(2) Disarm when the first partition that shares the common lobby is disarmed.

b. A Master partition (9), used strictly to assign keypads for the purpose of viewing the status of all eight (8) partitions at the same time (master keypads).

c. Assignable by zone.

d. Assignable by keypad/annunciator.

e. Assignable by relay to one or all eight (8) partitions.

f. Ability to display fire and/or burglary and panic and/or trouble conditions at all other partitions' keypads (selectable option).

g. Certain system options selectable by partition, such as entry/exit delay and subscriber account number.

4. User Codes – The control shall accommodate 250 user codes, all of which can operate any or all partitions. Certain characteristics must be assigned to each user code, as follows:

a. Authority level (Master, Manager, or several other Operator levels). Each User Code (other than the installer code) shall be

capable of being assigned the same or a different level of authority for each partition that it will operate.

b. Opening/Closing central station reporting option.

c. Specific partitions that the code can operate.

d. Global arming capability (ability to arm all partitions the code has access to in one command).

e. Use of an RF (button) to arm and disarm the system (RF key must first be enrolled into the system).

5. Peripheral Devices – The control shall support up to 30 addressable ECP devices, which can be any combination of keypads, RF receivers, relay modules, annunciator modules, and interactive phone modules. Peripheral devices have the following characteristics:

a. Each device set to an individual address according to the device's instructions.

b. Each device enabled in system programming.

c. Each device's address shall be supervisable (via a programming option).

6. Keypad/Annunciator – The control shall accommodate up to 16 keypads or six (6) touch-screen (i.e.; advanced user interface) keypads. The keypads shall be capable of the following:

a. Performing all system arming functions.

b. Being assigned to any partition.

c. Providing four programmable single-button function keys, which can be used for:

(1) Panic Functions –activated by wired and wireless keypads; reported separately by partition.

(2) Keypad Macros –32 keypad macro commands per system (each macro is a series of keypad commands). Assignable to the A, B, C, and D keys by partition.

7. Optional Output Relays - A total of 96 relay outputs shall be accommodated using relay modules. Each relay module shall provide four (4) Form C (normally open and normally closed) relays for general-purpose use or two (2) Class-B, Style-Y supervised notification appliance circuit outputs, when using the 4204CF module. The relays shall be capable of being:

a. Programmed to activate in response to system events.

b. Programmed to activate using time intervals.

c. Activated manually.

d. Assigned an alpha descriptor.

e. Used for Class B, Style-Y supervised bell outputs (4204CF module).

f. A combination of 4204 (ECP) and 4101SN (polling loop) relays.

8. Optional Vista Interactive Phone Module – The control shall support the ADEMCO 4285/4286 VIP Modules, which permit access to the security system in order to perform the following functions:

a. Obtain system status information.

b. Arm and disarm the security system.

c. Control relays.

9. Optional LED Annunciator – The control shall support the ADEMCO FSA-8 and FSA-24 annunciators, which are capable of:

a. Visually identifying a zone or point that is in alarm or trouble.

b. Programmable for system silence/reset.

c. Up to 96 LEDs may be used in one system.

d. A total of four (4) FSA-24 or 12 FSA-8 annunciators may be used in one system.

e. An optional keyswitch, FSAKSM module, shall be available for UL listed Silence and Reset capability.

10. Notification Appliance Circuits (NAC) – The Control Panel shall internally provide two supervised NAC outputs for operating fire and burglar alarm notification appliances. It shall also support additional supervised bell outputs when using 4204CF relay modules. Each NAC output shall be rated at 10-14 VDC, 1.7 amp max power limited. Total alarm current draw when using two NAC outputs shall not exceed 2.3 amps for battery independent operation.

11. Auxiliary Relay – A built-in Form C relay shall be provided. The relay contacts shall be rated at 28 VAC/VDC, 2.8 amps maximum. The relay shall support:

a. Alarm activation.

b. Trouble/supervisory activation.

c. Reset of four-wire smoke detectors.

d. Battery saving feature.

12. Integrated Access Control – The control shall be capable of the following:

a. Providing a command that activates relays to allow access doors to open (e.g., lobby door), lights to be turned on or off, etc.

b. Becoming a fully integrated access control system by using numerous VistaKey Single-Door Access Control Modules.

c. Supporting up to 15 VistaKey Access Control Modules. The VistaKey Access Control Modules shall use the same Compass Downloader as the Vista-250BP and shall be programmable from the Compass Downloader or the Keypad/Annunciators.

d. Assigning any number of access control relays to each partition (up to 96 for the system).

e. Supporting up to 500 access card holders using VistaKey.

f. Connecting to the ADEMCO PassPoint Access Control System via the Vista Gateway Module (VGM).

13. CCTV Switching – The System shall be capable of supporting the VistaView 100 CCTV Switching System. The CCTV system shall be fully integrated and be event driven by Fire, Burglary or Access events. When cameras are not event driven, they shall be driven by an automatic preset dwell time. The system shall also be capable of:

a. Activating the CCTV system via a Form-C relay output.

b. Operating up to 60 camera inputs and 30 video outputs.

14. Commercial Wireless Equipment – The Control shall be compatible with UL Listed Commercial Wireless Fire & Security equipment including:

a. ADEMCO 5881ENHC Commercial Fire/Burg Receiver. - The receiver shall be capable of receiving as many points as the control panel is rated for. Up to two (2) Receivers may be used on any system. Receivers may be remotely located anywhere on the system Keypad/Annunciator bus.

b. ADEMCO 5808LST Wireless Photoelectric Smoke and Heat Detector - The device shall be UL 268 listed and shall have Maintenance Alert capability and Automatic Drift Compensation.

c. ADEMCO 5809 Wireless 135D Fixed Temperature and Rate of Rise Heat Detector - The device shall be UL 521 listed for commercial applications.

d. ADEMCO 5817CB Wireless Universal Contact Monitoring Transmitter - This device shall be capable of making any conventional UL listed contact device a wireless device. The device shall be UL listed for commercial fire and burglary applications as follows: UL 864, 985 for fire and UL 365, 609, 1023, 1076 and 1610 for security and nurse call.

e. ADEMCO 5869 Wireless Hold Up Switch/Transmitter - This device shall be UL 636 listed for commercial burglary applications.

15. Optional Keyswitch – The control shall support the ADEMCO 4146 Keyswitch on any one of the system's 8 partitions. If used, zone 7 is no longer available as a protection zone.

16. Voltage Triggers – The system shall provide voltage triggers, which change state for different conditions. Used with LRR (Long Range Radio) equipment or other devices such as a remote keypad sounder, keyswitch ARMED and READY LEDs, or a printer to print the system's event log.

17. Event Log – The System shall maintain a log of different event types (enabled in programming). The event log shall provide the following characteristics:

    a. Stories up to 1,000 events.

    b. Viewable at the keypad or through the use of Compass software.

    c. Printable on a serial printer using a 4100SM Module including zone alpha descriptors.

    d. Stores PassPoint access control events.

    e. Sends printed events to up to eight alpha numeric pagers.

18. Scheduling - Provides the following scheduling capabilities:

    a. Open/close schedules (for control of arming/disarming and reporting).

    b. Holiday schedules (allows different time windows for open/close schedules).

    c. Timed events (for activation of relays, auto-bypassing and un-bypassing, auto-arming and disarming, etc.).

    d. Access schedules (for limiting system access to users by time)

    e. End User Output Programming Mode (provides 20 timers for relay control).

    f. The system shall automatically adjust for daylight savings time.

19. Communication Features - Supports the following formats and features for the primary and secondary central station receivers:

    a. Formats

        (1) ADEMCO Low Speed (Standard or Expanded).

(2) Sescoa/Radionics.

(3) ADEMCO Express.

(4) ADEMCO High Speed.

(5) ADEMCO Contact ID.

b. Backup reporting – The system shall support backup reporting via the following:

(1) Secondary phone number.

(2) ECP long-range radio (LRR) interface.

(3) Option to select long range radio (LRR) or dialup as the primary reporting method (dynamic signaling feature).

c. Internet reporting – The system shall be capable of communicating with the central station via the internet using Alarmnet-i. It shall provide the user with the ability to control the system via a browser interface (i.e., AOL, Netscape, Internet Explorer). All packet data transmitted to the monitoring station shall be encrypted with a minimum of 1024 bits of encryption.

20. Audio Alarm Verification Option - Provides a programmable Audio Alarm Verification (AAV) option that can be used in conjunction with an output relay to permit voice dialog between an operator at the central station and a person at the premises.

21. Cross-Zoning Capability - Helps prevent false alarms by preventing a zone from going into alarm unless its cross-zone is also faulted within 5 minutes.

22. Pager Interface – The Control Panel shall be capable of sending event information to an alphanumeric pager via a pager interface device.

23. 24-Volt Power Supply – The Control Panel shall be compatible with a 24-Volt power supply module. The module shall supply two (2) 24 vdc, 3.4 amps, rectified, unfiltered outputs, which power:

a. Alarm notification appliances, including but not limited to sirens horns, bells and strobes.

b. Auxiliary devices capable of operating using full-wave rectified unfiltered voltage.

24. Exit Error False Alarm Prevention Feature – The System shall be capable of differentiating between an actual alarm and an alarm caused by leaving an entry/exit door open. If not subsequently disarmed, the control panel shall:

a. Bypass the faulted E/E zone(s) and/or interior zones and arm the system.

b. Generate an Exit Error report by user and by zone so the central station knows it was an exit alarm and who caused it.

25. Enhanced Fire Walk-Test Mode – The Control Panel shall provide the installer with the following features:

a. Automatic test of all integrated remote point module (RPM) devices, equipped with an automatic test feature.

b. While automatic test is in progress all fire zones that remain untested shall be displayed.

c. An event log shall be capable of logging the results of tested and untested zones.

d. The ability to report the result of tested and untested zones to the central station.

26. Built-in User's Manual and Descriptor Review - For end-user convenience, the control panel shall contain a built-in User's Manual. It shall include the following capabilities:

a. By depressing any of the function keys on the keypad for five (5) seconds, a brief explanation of that function shall scroll across the alphanumeric display.

b. By depressing the READY key for five (5) seconds, all programmed zone descriptors shall be displayed (one at a time). This feature shall provide a check for installers and ensure all descriptors have been entered properly.

27. Programming - The Control shall be capable of being programmed locally or remotely using the ADEMCO Compass Downloader and shall be capable of:

a. Uploading and downloading all programming information at 300 baud.

b. Uploading and displaying firmware revision levels from the control.

28. Panel Linking - The Control shall be capable of being networked together with up to eight other controls and being operated by any keypad within the system. It shall provide the ability for users to:

a. Control multiple zones, partitions, and/or buildings from a central location.

b. Check status, arm and disarm any partition from any keypad in the system.

c. Globally arm or disarm partitions based upon user authority.

29. Automation Software - The Control shall be capable of interfacing with automation software via an RS232 input on a single partition.

The control panel shall be the ADEMCO VISTA-250FBP Commercial Burglary Partitioned Security System or equivalent.

2.02 ENCLOSURE

A. The Control Panel shall be enclosed in a metal cabinet, suitable for wall mounting. The dimensions shall not exceed 18 inches (45.7 cm) in height, 14.5 inches (36.8 cm) in width or 4.3 inches (10.9 cm) in depth.

2.03 ELECTRICAL POWER REQUIREMENTS

A. System Power – The Fire and Burglary Alarm System shall operate using standard 120 volts AC, 50/60 Hz power.

1. Control Primary Power – Transformer power shall be 18 VAC, 72VA.

2. Backup Battery – A rechargeable 12 VDC, gel type, lead acid backup battery shall be provided. The battery shall be rated between 7 and 34-ampere hours (AH).

3. Alarm Power – Alarm power shall be 10 - 13.8 VDC, 1.7 amps for each bell output

4. Auxiliary Standby Power – Standby power shall be 9.6 - 13.8 VDC, 1 amp maximum.

5. Fusing – The battery input, auxiliary, and bell outputs shall be protected using PTC circuit breakers. All outputs shall be power limited.

2.04. ENVIRONMENTAL CONDITIONS

A. Environmental Conditions – The Fire and Burglary Alarm System shall be designed to meet the following environmental conditions.

1. Storage Temperature – The system shall be designed for a storage temperature of -10° C to 70°C (14° F to 158°F).

2. Operating Temperature - The system shall be designed for an operating temperature of 0° C to 50°C (32° F to 120°F).

3. Humidity - The system shall be designed for normal operation in an 85% relative humidity environment.

4. Electromagnetic Interference – The system shall meet or exceed the requirements of FCC Part 15, Class B devices, FCC Part 68, IEC EMC directive.

PART 3 EXECUTION

3.01 EXAMINATION

A. Submission of a proposal confirms that the Contract Documents and site conditions are accepted without qualifications unless exceptions are specifically noted.

B. The site shall be visited on a regular basis to appraise ongoing progress of other trades and contracts, make allowances for all ongoing work, and coordinate the requirements of this contract in a timely manner.

3.02 INSTALLATION

A. The System shall be installed and tested in accordance with the Manufacturer's Installation instructions. The following conditions are applicable:

1. In order to ensure a complete, functional System, for bidding purposes, where information is not available from the Owner upon request, the worst case condition shall be assumed.

2. Interfaces shall be coordinated with the Owner's representative, where appropriate.

3. All necessary backboxes, pullboxes, connectors, supports, conduit, cable, and wire shall be furnished and installed to provide a complete and reliable System installation. Exact location of all boxes, conduit, and wiring runs shall be presented to the Owner for approval in advance of any installation.

4. All conduit, cable, and wire shall be installed parallel and square with building lines, including raised floor areas. Conduit fill shall not exceed forty percent (40%). All wires shall be gathered and tied up to create an orderly installation.

3.03 TESTING AND CERTIFICATION

A. The Contractor shall demonstrate the functionality of the System upon completion of installation, documenting the result of all tests and providing these results to the Owner. The System shall be tested in accordance with the following:

1. The Contractor shall conduct a complete inspection and test of all installed equipment. This includes testing and verifying connection to equipment of other Divisions.

2. The Contractor shall provide staff to test all devices and all operational features of the System for witness by the Owner's representative and the Authority having jurisdiction. The Contractor shall provide two-way radio communications to assist in the testing. All testing must be witnessed by the owner's representative, prior to acceptance.

3. The testing and certification shall take place as follows:

    a. System shall be tested in conjunction with the manufacturer's representative.

    b. All deficiencies noted in the above test shall be corrected.

    c. Test results shall be submitted to the consultant or owner's representative.

    d. System test witnessed by owner's representative and correction of any deficiencies noted.

    e. The owner's representative shall accept the System.

    f. System test shall be witnessed by the Authority having Jurisdiction, and any deficiencies that are noted shall be corrected.

4. A letter of certification shall be provided to indicate that the tests have been performed and all devices are operational.

END OF SECTION